

Notice of Allowability

Application No.

10/046,282

Examiner

Minh-Chau T. Pham

Applicant(s)

CHOI ET AL.

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 8/28/2003.
2. ☒ The allowed claim(s) is/are 11-17.
3. ☒ The drawings filed on 16 January 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No. _____.
- (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
- (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- 1 ☐ Notice of References Cited (PTO-892)
- 3 ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 6 ☐ Information Disclosure Statements (PTO-1449), Paper No. _____.
- 7 ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

- 2 ☐ Notice of Informal Patent Application (PTO-152)
- 4 ☐ Interview Summary (PTO-413), Paper No. _____.
- 6 ☐ Examiner's Amendment/Comment
- 8 ☒ Examiner's Statement of Reasons for Allowance
- 9 ☐ Other

Minh-Chau T. Pham
Minh-Chau T. Pham
Patent Examiner
Art Unit: 1724

Allowable Subject Matter

1. Claim 11 allowed.
2. The following is an examiner's statement of reasons for allowance: None of the prior arts discloses a method of removing a residual gas remaining in a gas inlet connecting a mass flow controller and a chamber comprising the step of opening a vent valve connected to another end of the gas inlet and pumping the residual gas through the vent valve and into the atmosphere.
3. Claims 12-16 allowed.
4. The following is an examiner's statement of reasons for allowance: None of the prior arts discloses a gas supply apparatus for supplying gas to a process chamber and a vent residual gas removing system wherein the the gas supply apparatus includes a mass flow controller and a gas inlet line connecting the outlet of the mass flow controller to a low stress valve, and the vented residual gas removing system is in gas flow communication with the gas inlet line of the gas supply apparatus so as to remove residual gas therefrom.
5. Claim 17 allowed.
6. The following is an examiner's statement of reasons for allowance: None of the prior arts discloses a method of forming a tungsten silicide film comprising the steps of disposing a substrate in a process chamber, opening a low stress valve having an outlet end connected to the process chamber and an inlet end connected to a plurality of sources of gas via a gas inlet line, controlling the flow of gas through the open low stress valve and into the process chamber using a mass flow controller disposed

between the gas inlet line and the source of gas, closing the low stress valve to cut off the supplying of gas into the chamber, venting the gas inlet line to remove residual gas therefrom, and opening the low stress valve and allowing the inert carrier gas to flow therethrough into the process chamber.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh-Chau T. Pham whose telephone number is (703) 308-1605. The examiner can normally be reached on Mon/Tues/Thur/Fri 7:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (703) 308-1261. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Application/Control Number: 10/046,282

Page 4

Art Unit: 1724


Minh-Chau Pham

Patent Examiner

September 27, 2003